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**U.S. DEPARTMENT OF COMMERCE
BUREAU OF INTERNATIONAL COMMERCE
WASHINGTON, D.C. 20230**

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January 18, 1967

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MEMORANDUM

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TO:

Deputy Director
Research and Reports
Central Intelligence Agency

FROM:

Theodore L. Thau
Executive Secretary
Advisory Committee on Export Policy

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Enclosed for your file is copy No. 49 of the corrected minutes of the meeting of the Advisory Committee on Export Policy held December 14, 1966 to review questions about U.S. policies related to the Limited Nuclear Test Ban Treaty and NSAM 294, which have arisen in carrying out export controls over certain commodities and technical data to France.

Separate copies are being sent to your staff participants in our export control advisory committee.

Enclosure

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19 JAN 1967

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January 13, 1967

REPORT OF ACTION NO. 3(66)

To: Members
Advisory Committee on Export Policy

From: Chairman
Advisory Committee on Export Policy

Subject: Report of Advisory Committee on Export Policy
Meeting held December 14, 1966

Those attending were:

AEC	Commissioner Johnson and Messrs. Kratzer and Kratz
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COMMERCE	Assistant Secretary Trowbridge (Chairman) and Messrs. Meyer and J.M. George
DEFENSE	Deputy Assistant Secretary Barber and Messrs. Rubin and Schroeder
INTERIOR	Deputy Assistant Secretary O'Leary
NASA	Assistant Administrator Frutkin and Mr. Wilson
STATE	Assistant Secretary Solomon and Messrs. Wright and S. George

Theodore L. Thau, Executive Secretary

AGENDA

To Review Questions About U.S. Policies Relating to the Limited Nuclear Test Ban Treaty and NSAM 294, Which Have Arisen in Carrying Out Export Controls Over Certain Commodities and Technical Data to France.

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GROUP 1

Excluded from automatic downgrading and declassification.

To Review Questions About U.S. Policies Relating to the Limited Nuclear Test Ban Treaty and NSAM 294, Which Have Arisen in Carrying Out Export Controls Over Certain Commodities and Technical Data to France

Mr. Trowbridge opened the meeting. He pointed out that at the Operating Committee the cases had for the most part been agreed upon by all the interested departments and agencies excepting AEC. For the purpose of this ACEP review, AEC will therefore be considered as the appellant. Before asking AEC to explain the grounds for its opposition to the positions taken by the other departments and agencies in the OC, Mr. Trowbridge considered it would be helpful to have the CIA adviser, [redacted], give a brief analysis of the current status of the French nuclear weapons program. 25X1A

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[redacted] stated that the French nuclear program has been in progress since 1945. The first reactor was built in 1948. Major decisions of the French government to have a nuclear military program were taken early in the 1950's. In 1958 deGaulle made that a major governmental effort. Early in 1960 France exploded its first nuclear device. At first the French nuclear program was substantially civilian in nature, but now, based on classified reports, it appears that 85% of the effort is going into the military side of the nuclear program and 15% into the civilian side.

The French aim is to develop a nuclear capability in a relatively short time. They are doing better on the development of nuclear weapons (warhead) than had been initially anticipated. They are also progressing reasonably well on the delivery system. The original program for the Mirage IV's has been substantially achieved. Thermonuclear weapons development has lagged behind somewhat. However, the French expect to have their first generation delivery capability by early next year. This would consist of some 36 operational aircraft with [redacted] 25X1B

There is also a follow-on program well under way. It involves development of a land based ICBM of variable range capability. It is expected that ICBM deployment will be well under way by 1969 and completed by the early 1970's when 25 to 30 such missiles should be available. These would also be armed with fission type weapons.

The other aspect of the follow-on program is a parallel but slightly delayed program to develop a small fleet of nuclear submarines equipped with missiles. Construction of the first such submarine is under way and is expected to be launched next year though it probably won't be operational until about 1970. The missile for it would be of the solid propellant type. Very limited numbers of such are contemplated--three at the start. There will be 16 missiles per submarine, for a total of 48 missiles.

All aspects of this follow-on program are expected to be "in place" by about 1974.

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With respect to the extent to which the French are able to attain self-sufficiency in the nuclear weapons field one must distinguish between the missiles and the warhead. For the missile delivery system, France has for many years depended very largely on the U.S. for technology and equipment. That effort was well under way at the time NSAM 294 was adopted in 1964 and there is not much we can do to delay or impede that element of the French program.

With respect to the development of self-sufficiency in the case of the nuclear warhead, there have been delays, to some extent contributed to by our refusal to license items since 1964, but more because costs have turned out to be much larger than originally planned.

Another phase of the large French nuclear program has still to be achieved and has not yet been realized, even partially. This is an effort to develop a high-yield thermo-nuclear weapon. It is believed that deployment of such weapons is not likely to occur before the mid-1970's. The problem here is not a lack of advanced computers or other items. CIA looked at the computers available to and within France and concluded that the French existing stock of computers is better than that which the U.S. and the USSR had at a similar stage of their nuclear weapons development. Our denial of more advanced computers is not holding back the program. [] pointed out that the major barrier for the development of the French thermonuclear warhead appears to be in the area of design difficulties, not the acquisition of U.S. computers or other equipment.

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France also has a small tactical weapons program of a nuclear nature. They contemplate producing 150 or so small missiles. However, it does not appear that very much money is yet being devoted to that program. The small missile would be of a tactical nature, having a range of about 75 miles.

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Mr. Trowbridge noted that [] had appeared to emphasize that there has been a time lag between the original French target date and the date of actual achievement of the initial program and that this appears to have been caused to a considerable degree by increasing costs. He asked [] whether, aside from this question of increasing costs, the French have suffered from our denial of U.S. equipment or technology in this field. [] replied: "not much."

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25X1A Mr. Barber asked [] to discuss further the help which the U.S. had given to France in the development of its missiles. [] said that this included furnishing France gyroscopes, inertial guidance systems, and the basic technology of solid propellants. The major part of the development occurred before 1964. [] [] 25X1A

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25X6 [] [] said the French had been told that they could also have it. However, as he put it, deGaulle said he did not want it. There was no restraint on our supply of equipment or technology for the French missile program until recently. 25X1A

25X1A [] said that a U.S. aerospace firm has offered to help the French as a consultant in the development of a reliability or "fail-safe" system for their missiles, but French acceptance is not known.

Mr. Frutkin explained that NASA played no part in providing the French any missile help though NASA had helped them by launching a scientific payload on a U.S. booster.

Mr. Frutkin went on to say that it appears from [] summary that computer restrictions could have only cosmetic effects and the question for ACEP would be therefore where to draw the line. 25X1A

25X1A He added that gyros for ELDO had been denied because it would have given the French access to important technology useful for its military program, but it seems from [] statement that adequate guidance was already available to the French.

Mr. Trowbridge then turned the discussion to the basic problems raised by the staff papers. He asked Commissioner Johnson to state the AEC point of view about the decisions that had been reached at the OC.

Commissioner Johnson opened by explaining that he is only one of 5 commissioners and is obliged to confer with the others about any proposed changes in policy with respect to those aspects that had been already formally passed upon by the Commission. He agreed that we do have here appearance and congressional problems. AEC is required to justify all its actions in this field before the Joint Committee on Atomic Energy. The members of this committee have indicated concern about helping France and other foreign countries develop nuclear weapons programs. Since the adoption of NSAM 294, of which the Joint Committee is aware, it has been particularly hard to justify any actions that did not constitute carrying out the NSAM.

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Commissioner Johnson considered that our policy of denial of advanced computers to France is a transient phase of our program. He noted that IBM and GE are already active in France in manufacturing computers which we are not under present regulations able to prevent the French government from acquiring and using.

Mr. Barber stated that IBM officials had told him recently that they are constantly exchanging technical data regarding the manufacture of their various models of computers among their U.S. and several foreign manufacturing plants so that it is difficult to say that there is still any technology concerning even their advanced computers over which we still have any meaningful ability to control its exportation from the United States. This constant exchange of technology goes on through the interconnection of IBM computers in the U.S. with computers in the foreign plants.

Commissioner Johnson expressed doubt that IBM or any other U.S. concern is actually making available in foreign countries its most advanced technology. In his view we have and will continue to maintain a lead time of 1 to 2 years.

Mr. Trowbridge explained that we are not here concerned with advanced computers as the question of their export to France for nuclear and non-nuclear purposes has been resolved through the Fowler-Debre agreement, and it is not the purpose of this ACEP review to bring that agreement into question. We are concerned here only with non-advanced computers, however they may be defined. This means fundamentally computers of a low technological level. Since comparable computers of a non-advanced nature are known to be available to France from their own production and from other free world countries such as the U.K., West Germany and Japan, the question arose as to the basis for AEC opposition to supplying them even to French nuclear weapons laboratories. Mr. Rubin pointed out that the fact that U.S. firms have applied to sell computers of that nature to French nuclear weapons laboratories is no indication that comparable computers are unavailable to France from other sources.

Mr. Frutkin recalled that computer manufacturing technology, particularly for low level computers, is not a limiting factor to the French nuclear weapons program.

The point was made that France is seeking to develop its own computer industry because it cannot depend on the U.S. market for computers for various French purposes. They have found that the U.S. tends to vacillate from approval to denial and there is no firm basis on which the French can rest a conclusion that they do not need to incur the heavy expense of developing their own industry.

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Commissioner Johnson stated that, with respect to low level computers, which are available abroad, the fundamental basis of AEC's objection is in terms of appearance; i.e., knowingly selling equipment useful in a nuclear weapons development effort to an installation known to be engaged primarily in nuclear weapons work. He thought that we should continue to hold back technology for the making of advanced computers. It was explained that at present we have no regulation giving us control over exports of technology to France for even the most advanced U.S. computers.

Mr. Solomon then brought up his proposal that, with respect to non-advanced computers, we should be willing to license them to French nuclear weapons laboratories, provided we get assurances from the French government that these nuclear weapons laboratories will not use them for nuclear weapons development or testing work. The non-advanced computers could, under his proposal, be exported to other kinds of French users without any assurances.

Mr. Solomon suggested that his proposal could apply to non-advanced vibrators and other such items, as well.

The question was then raised whether it is feasible to consider that the French would put even a non-advanced computer in a nuclear weapons laboratory and be able to refrain from using it for nuclear weapons purposes.

Mr. Kratzer said that while the U.S. Atomic Energy Commission does both kinds of work in the same laboratories, there is no evidence that the French do. Consequently, he was not sure that we could accept French statements of non-military use. Mr. Trowbridge observed that, from the cosmetics standpoint, our receipt of assurance letters would appear satisfactory, particularly as no useful purpose would be served by denying the U.S. computers.

Mr. Frutkin expressed the opinion that little or no publicity would be likely to ensue from sales of non-advanced computers even to French nuclear weapons laboratories. Accordingly, he saw no need to consider such sales from the cosmetic standpoint. In his view we did not even need to get French government assurances. Mr. Frutkin stated that the assurances that we have agreed to take in connection with the Fowler-Debre agreement are, in his judgment, not a satisfactory basis for exporting advanced computers to France. He thought our decision to accept such assurances limited only to a "present intention", was most unfortunate and believed we should not extend that procedure. He urged that we not proliferate this practice.

Mr. Trowbridge suggested that we consider the question of denying vibrators and vibrator manufacturing technology for the French nuclear weapons program.

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Mr. Barber said that he had considered that vibrators are not per se significant to the French nuclear weapons program, whether of the small or large size. In his view, therefore, we should drop our current effort to control any vibrators to France for any purpose. He noted that [] had, in effect, stated that our denial of vibrators of any size would not importantly affect the ability of France to complete its nuclear weapons programs on time. Mr. Barber agreed to withdraw his position freeing vibrators only under 15,000 lb. thrust from control. He emphasized that even if the larger vibrators are not available abroad in comparable quality or otherwise, they are in his judgment not important enough to the French nuclear weapons program or rather to our objective in impeding the French nuclear weapons program for us to deny them. He noted that France already has a large stock of vibrators of all sizes, can purchase from others, and is reported engaged in developing a domestic manufacturing capability in this field.

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Mr. Kratzer said that vibrators, in his judgment, present a problem of appearance, if they are for nuclear weapons laboratories. AEC is not opposed to exports of vibrators to any other consignees in France. He asked whether NSAM 294 requires us to deny items like vibrators on appearance grounds. Mr. Barber mentioned correspondence from a U.S. manufacturer of vibrators to Secretary McNamara saying that we have been hurting that company very substantially to no worthwhile end by denying it licenses to supply its vibrators to France. Mr. Kratz questioned whether in fact our controls had seriously hurt manufacturers of vibration equipment to the extent claimed by those companies since only a relatively few had been denied. Mr. Thau agreed that only a few vibrators had been denied. Mr. Kratz asked Mr. Barber, in view of the discussion up to this point, what items he considered sufficiently significant to the French nuclear weapons program to warrant our denying them.

Mr. Barber replied that there is probably nothing of such significance licensed by Commerce. Commissioner Johnson said that he did not believe that vibrators could be considered significant enough to warrant our denying them if comparable vibrators are available to the French nuclear weapons program from other countries and from within France.

Mr. Kratzer said that even if we agree that the basic problem that the French have in their development of a thermo-nuclear weapon is in the area of design, he believed the French were also short of nuclear material for such a weapon. [] indicated that his agency had evidence that the French have enough highly enriched material to run their tests. Mr. Trowbridge asked Mr. Solomon whether we have yet succeeded in getting other countries to agree to denying vibrators, etc. to France for nuclear weapons purposes. Mr. Solomon replied

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that his department has considered that the current effort to get the U.K. to agree to restrict exports of computers to Communist China is more important and that it would be counter-productive to try to get the U.K. at the same time to agree to restrict vibrators and other such items to France. Mr. Solomon explained that in fact the other countries that are signatories to the Nuclear Test Ban Treaty do not appear to be as interested in its enforcement as we are.

Mr. Frutkin emphasized that, the fact that the French have chosen to buy vibrators and other such items from us, does not mean they cannot make them in France or buy them elsewhere. He said it probably was simply a question of commercial competition. He said that France already has enough vibrators to do anything needed in connection with their nuclear weapons and delivery systems programs.

Mr. Solomon said his department has several divisions concerned with this Nuclear Test Ban Treaty and NSAM 294 policy and they are split among themselves on how these cases should be handled, although there is agreement on the State proposals under discussion. For this reason, some might feel we should seek assurances as to some kinds of vibrators to provide that they not go to nuclear weapons laboratories, if only for cosmetic reasons. He said that he has asked our Embassy in France to comment on the proposal to ask for French assurances as to vibrators and other items in addition to advanced computers and has had only a telephonic preliminary response indicating that our Embassy sees problems in trying to extend the assurance procedure. Mr. Barber said that he thought assurances might be necessary for some items but not for others. He agreed that computers have, in the public eye, an importance to nuclear weapons development programs, and so, for cosmetic reasons, we should have assurances when they are consigned to atomic laboratories that they will not be used for weapons purposes.

Mr. Kratzer thought that there should be more study made by OEC as to foreign availability and comparability of vibrators of different sizes. He asked if OEC had secured foreign sales literature to substantiate the claims being made that equipment similar to U.S. equipment was available from foreign sources. He thought vibrators available abroad in comparable quality might be removed from control to France without assurances, but that the line should be drawn on the basis of foreign availability and comparability.

Mr. Barber said he saw no significant basis for control of vibrators of any size regardless of foreign availability or comparability.

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It was explained that we do not now have a case for supplying a vibrator to a French nuclear weapons laboratory and that we may well reserve, until such a case should arise, a decision on whether it would be licensed with or without a France government assurance as to non-weapons use.

Mr. Trowbridge said that on this basis he thought OEC should attempt to get more information on foreign availabilities and comparabilities of vibrators of different sizes, but that it appeared from the discussion that OEC could freely license vibrators to non-weapons laboratories without assurances.

The question was raised as to whether we should accept French assurances coming from the French Military Mission in Washington. Mr. Kratzer noted that the history of dealings with the Mission raised questions as to whether the assurances from officers of that Mission could safely be given credence.

Commissioner Johnson said that in his view State should make a determination whether assurances from the French Military Mission or any other particular agency of France or of any other government should be acceptable to the U.S.

The discussion then turned to the film reader.

Mr. Trowbridge asked whether it is considered important enough to the French nuclear weapons program to warrant our denying it. There followed a general discussion as to the use to which the film reader would be put by the French AEC in connection with the nuclear weapons program. It was explained that the film reader would speed up considerably the review and evaluation of test results. This led to consideration of the question of the importance of treating items contributing to nuclear weapons tests on a different basis than other items. Mr. Wright explained that there are different views within State as to the strictness with which we ought to interpret our Test Ban Treaty obligations by controlling items of this sort. He noted that the legal adviser in the State Department, Mr. Meeker, took a very strict view and that the matter should therefore be checked with him.

Mr. Trowbridge observed that it appeared from the tenor of the discussion up to this point that for all these items, and whether viewed from the Test Ban Treaty or NSAM 294 point of view, the basic questions are the same: (1) whether the item is of particular importance to the French nuclear weapons program; (2) whether it is an advanced type of item; and (3) whether there is foreign availability and comparability of items.

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Mr. Kratzer said that with respect to the question of importance to the nuclear weapons program, he and his experts are satisfied that this film reader is sufficiently important to call for its denial. He also considered it advanced and that the evidence of foreign availability was very unclear and should be clarified by Commerce. He added that he did not believe that the assurance received from the French Military Mission with respect to the film reader could be acceptable to AEC. He doubted that any civilian element of the French government would give an assurance on this item with respect to non-nuclear weapons program use.

Mr. Frutkin argued that this film reader is, in the judgment of his technical experts, not advanced and thus, is to be distinguished from the film reader that was considered some time ago. That was a superior instrument and it was properly denied. He wondered if the two cases were being confused.

There was a rather general discussion of the question of the extent to which an instrument like this film reader has to be evaluated in relation to the French nuclear weapons program, i.e., as indispensable, essential, effectively useful, etc.

Mr. Frutkin thought that the claim of the AEC that this film reader could be "of significant value" is not sufficient demonstration of importance to warrant denial. He noted that we would be here denying the U.S. firm the chance to sell a very expensive item without strong grounds for such action.

Mr. Trowbridge asked whether we should seek an assurance from the French government for the film reader as we had proposed to do for computers, i.e., to bar their use for nuclear weapons purposes.

Commissioner Johnson said that AEC prefers that we not sell this film reader to France at all. He continued, however, that our obtaining assurance would be better than nothing. In response to questioning about the "significance" of the film reader to French nuclear weapons development as distinguished from French nuclear weapons testing only, he said that our denial of this film reader could slow up French analysis of the results of the testing and that this had an important bearing on the next testing step. In fact it could affect such activities by as much as six months or a year.

Mr. Trowbridge said that with respect to the importance of an item like the film reader to the French nuclear weapons program, we ought to rely heavily on AEC for this determination. If they say that an item is significant and important and favor denial, we ought to heed that request unless there is foreign availability and comparability.

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The State and Defense representatives agreed to this approach, although the Defense representative emphasized that if there is foreign availability we should allow the item to go.

Commissioner Johnson said that he would ask AEC technicians to recheck their determination as to the importance of this film reader to the French nuclear weapons program. At the same time he asked that Commerce recheck its information on the question of foreign availability and comparability.

Mr. Frutkin said that he felt that even if there are no alternative sources, we should not necessarily deny the film reader if it does not embody advanced technology. As he understood it, this instrument could be made by any competent person from stock components. He declined to vote on this item, as he believed the AEC and Commerce were primarily concerned.

Mr. Trowbridge then asked the members to consider the question of the policy on licensing parts for replacement in items previously shipped to French nuclear weapons laboratories. Commissioner Johnson stated that he agreed with the State Department's view that it is a matter of U.S. good faith to allow U.S. firms to keep in good running order equipment that we allowed them to sell to France in good faith. He limited his concurrence to items which would merely keep the instrument in operating condition but not items that would upgrade or improve the performance of the instrument. The other members also indicated agreement to this viewpoint.

Mr. Trowbridge then undertook to sum up the conclusions arrived at by the members.

1. With respect to spare parts there was agreement on the State policy.
2. On less advanced computers it was agreed that, subject to Commissioner Johnson getting the concurrence of the other AEC Commissioners, all departments and agencies concerned were agreeable to the State proposal that the attempt be made to get French government assurances that non-advanced computers ordered by French nuclear weapons laboratories would be used only for peaceful nuclear purposes. Non-advanced computers could be licensed by Commerce to other French consignees without French government assurances.
3. Regarding vibrators, it was generally agreed that Commerce could approve cases of any size or type to any French consignees other than French CEA nuclear weapons laboratories. Commerce would, however, check on the foreign availability and comparability of vibrators of small and large

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sizes. Any case for export of a vibrator to a French nuclear weapons laboratory would be determined primarily on the basis of whether there is or is not foreign availability and comparability. It was also agreed that further analysis would be made to determine at what level vibrators could be exported, irrespective of the French consignee and even if there were no foreign availability or comparability, taking into account the use of multiple vibrators in tandem to achieve the effects of large vibrators.

4. Concerning the film reader, Commerce would examine the question of foreign availability and comparability more carefully and AEC would recheck its technical evaluation as to the importance of the film reader in its nuclear weapons program.

These conclusions were agreed to by the AEC, NASA, State and Defense members.

Mr. Scott George then stated that he had come to the conclusion that we should not attempt to maintain any double standard of interpretation for NSAM 294 and the Test Ban Treaty. For both we should aim at denying the French only those items that would be of truly significant assistance to their nuclear weapons program and are unavailable from non-U.S. sources. He asked those present to consider the desirability of a policy change of this nature and said he would attempt to win support in State for such a course.

Mr. Trowbridge then asked the members whether they had considered the Commerce task group study to determine the definition of an advanced computer as one that has a bus rate of 50 million bits per second or more. Commissioner Johnson said he wished to study this proposal further in the light of the Fowler-Debre agreement and offered to give Mr. Trowbridge his views by Friday, December 16. Mr. Kratzer said that it should be somewhat easier for AEC to consider the task group proposal if agreement can be reached on our obtaining assurances regarding non-advanced computers going to French nuclear weapons laboratories. The meeting closed at 4:45 p.m.

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